Amendments to the Claims:

This listing will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Currently amended): An ~~electrical power interface for energizing at least one~~ electrodeionization (EDI) module ~~from an alternating current (AC) source, the at least one EDI module~~ purifying a fluid flow which EDI module is energized by ~~when~~ DC power ~~is provided~~ between an anode and a cathode, wherein the DC energizes the EDI module with a stable DC current that is converted from an AC source by an ~~of the at least one EDI module, said~~ electrical power interface which further adjusts the DC voltage/current output so that the DC current that energizes the EDI module ~~converting the power from the AC source into stable DC power that~~ is unaffected by the fluid temperature, fluid flow rate, fluid quality, or variances in the AC source or in the construction of the ~~at least~~ EDI module.

Claim 2 (Original): The electrical power interface of claim 1 comprising: a transformer, coupled to the AC source, that can be adjusted for providing varying AC power at said transformer output; a phase-controller for controlling the operation of a rectifier based on the AC power and on a feedback signal from the DC power.

Claim 3 (Original): The electrical power interface of claim 2, wherein said transformer is an autotransformer.

Claim 4 (Original): The electrical power interface of claim 3, further comprising an automatic control system coupled to said autotransformer for automatically adjusting said autotransformer.

Claim 5 (Original): The electrical power interface of claim 4, wherein said automatic control system comprises: a sampling circuit having an input coupled to said anode; a reference voltage circuit having an input coupled to an output of said sampling circuit to form an electrical power interface input, said reference voltage circuit comparing said electrical power interface input against a reference voltage to generate difference signal; an amplifier for amplifying said difference signal; a DC motor having an electrical power input coupled to a DC power supply through a switch controlled by said amplifier, said DC motor having a mechanical output coupled to and controlling a spindle of said autotransformer based on said difference signal.

Claim 6 (Canceled)

Claim 7 (Original): The electrical power interface of claim 2, wherein said feedback signal comprises a voltage signal.

Claim 8 (Original): The electrical power interface of claim 2, wherein said rectifier is a full-wave rectifier.

Claim 9 (Original): The electrical power interface of claim 2, wherein said rectifier comprises a single-phase rectifier.

Claim 10 (Original): The electrical power interface of claim 2, wherein said rectifier comprises a three-phase rectifier

Claim 11 (Currently amended): The ~~electrical power interface of claim 3 wherein said at least one~~ EDI module of claim 1, further comprising ~~comprises~~ alternating anionic and cationic membranes which define alternating fluid chambers and concentrate chambers for conveying said fluid flow and a concentrate flow, respectively, said fluid chambers comprising ion exchange resins, all of which are spirally-wound around a central conductive pipe and all of which are contained within a conductive lining, said central conductive pipe comprising said cathode and said conductive lining comprising said anode, said cathode and said anode being connected to an electrical interface respectively.

Claim 12 (Currently amended): An EDI module according to claim 38, wherein the ~~The~~

electrical power interface ~~of claim 11 further comprising~~ further comprises an automatic control system coupled to ~~said~~ an autotransformer for automatically adjusting said autotransformer.

Claim 13 (Currently amended): An EDI module according to ~~The electrical power interface of~~ claim 12, wherein said automatic control system compriscs: a sampling circuit having an input coupled to said anode; a reference voltage circuit having an input coupled to an output of said sampling circuit to form an electrical power interface input, said reference voltage circuit comparing said electrical power interface input against a reference voltage to generate difference signal; an amplifier for amplifying said difference signal; a DC motor having an electrical power input coupled to a DC power supply through a switch controlled by said amplifier, said DC motor having a mechanical output coupled to and controlling a spindle of said autotransformer based on said difference signal.

Claim 14 (Currently amended): An EDI module according to ~~The electrical power interface of~~ claim 11, wherein said feedback signal comprises a voltage signal.

Claim 15 (Currently amended): An EDI module according to ~~The electrical power interface of~~ claim 11, wherein said rectifier is a full-wave rectifier.

Claim 16 (Currently amended): An EDI module according to ~~The electrical power interface of~~

claim 11, wherein said rectifier comprises a single-phase rectifier.

Claim 17 (Currently amended): An EDI module according to ~~The electrical power interface of~~ claim 11, wherein said rectifier comprises a three-phase rectifier.

Claim 18 (Currently amended): A method for providing a stable DC current to the ~~at least one~~ electrodeionization (EDI) module of claim 1 from an alternating current (AC) source wherein the at least ~~at least~~ one EDI module purifies a fluid flow when DC power is provided between an anode and a cathode of the ~~at least one~~ EDI module, said method comprising a ~~the~~ step of rectifying the AC power from the AC source into DC power using phase control and DC power feedback to stabilize the DC current after rectification that is unaffected by the fluid temperature, fluid flow rate, fluid quality, or variances in the AC source or in the construction of the at least one EDI module.

Claim 19 (Currently amended): The method of claim 18, wherein said step of rectifying the AC power comprises synchronizing a phase controller with the AC power.

Claim 20 (Original): The method claim 19, wherein said step of rectifying the AC power comprises feeding back a voltage signal from the DC power to said phase controller.

Claim 21 (Original): The method of claim 18, wherein said phase controller uses proportional/integral control to generate pulse commands to a rectifier.

Claim 22 (Original): The method of claim 21, wherein said step of using proportional/integral control permits the control of pulse command parameters.

Claim 23 (Original): The method of claim 22, wherein said pulse command parameters include pulse width.

Claim 24 (Original): The method of claim 22, wherein said pulse command parameters include pulse amplitude.

Claim 25 (Original): The method of claim 22, wherein said pulse command parameters include pulse edge slope.

Claim 26 (Original): The method of claim 21, wherein step of rectifying the AC power into DC power comprises disposing an autotransformer between the AC source and a rectifier, said autotransformer being adjustable.

Claim 27 (Original): The method of claim 26, wherein said step of disposing an autotransformer

between the AC source and said rectifier comprises automatically controlling the adjustment of said autotransformer based on said DC current.

Claim 28 (Original): The method of claim 27, wherein said step of automatically controlling the adjustment of said autotransformer comprises: coupling a DC motor output to said autotransformer; continuously comparing a portion of said DC power to a reference and using a difference between said portion of said DC power and said reference to activate said DC motor.

Claim 29 (Currently amended): At ~~An electrical power interface for energizing at~~ least two electrodeionization (EDI) modules of claim 1 connected in electrical series for purifying a fluid flow which are energized by DC power ~~from an alternating current (AC) source, the at least two EDI modules purifying a fluid flow when DC power is provided~~ between an anode of one of said at least two EDI modules and a cathode of the other one of said at least two EDI modules, wherein the DC power energizes the EDI module with stable DC current with a stable DC current that is converted from an AC source by an electrical power interface which further adjusts the DC voltage/current output so that the DC current that energizes the EDI module is unaffected by the fluid temperature, fluid flow rate, fluid quality, or variances in the AC source or in the construction of the ~~at least~~ EDI module. ~~said electrical power interface comprising a rectifier for converting the power from the AC source into DC power, said rectifier powering said at least two modules with the same DC current.~~

Claim 30 (Currently amended): At least two EDI modules according to ~~The electrical power interface of~~ claim 29, wherein said electrical power interface comprises a transformer that is coupled to ~~rectifier is controlled to convert the power from~~ the AC source, which transformer is adjustable for varying AC power at an output of the transformer, a phase-controller for controlling the operation of a rectifier based on the AC power and a feedback signal from the ~~into stable~~ DC power, said rectifier having a positive node and a negative node, and wherein said positive node is coupled to the anode of at least one of ~~that is unaffected by the fluid temperature, fluid flow rate, fluid quality, or variances in the AC source or in the construction of~~ the at least two EDI modules and wherein said negative node is coupled to the cathode of another one of said at least two EDI modules, and wherein the cathode of at least one of the at least two EDI modules is coupled to the anode of said another one of said at least two EDI modules.

Claim 31 (Canceled)

Claim 32 (Currently amended): A method for providing a DC current to at least two electrodeionization (EDI) ~~modules,~~ modules of claim 1 that are connected in electrical series, from an alternating current (AC) source wherein the at least two EDI modules purify a fluid flow when DC power is provided between an anode of one of said at least two EDI modules and a cathode of the other one of said at least two EDI modules, said method comprising a ~~the~~ step of

rectifying the AC power from the AC source into DC power and powering said at least two EDI modules with the same DC current.

Claim 33 (Original): The method of claim 32, wherein said step of rectifying the AC power comprises using phase control and DC power feedback to stabilize the DC current after rectification that is unaffected by the fluid temperature, fluid flow rate, fluid quality, or variances in the AC source or in the construction of the at least EDI module.

Claim 34 (Currently amended): The method of claim 33, wherein said step of rectifying the AC power comprises synchronizing a phase controller with the AC power.

Claim 35 (Original): The method claim 34, wherein said step of rectifying the AC power comprises feeding back a voltage signal from the DC power to said phase controller.

Claim 36 (Original): The method of claim 33, wherein said phase controller uses proportional/integral control to generate pulse commands to a rectifier.

Claim 37 (Original): The method of claim 36, wherein said step of using proportional/integral control permits the control of pulse command parameters.

Claim 38 (New): The EDI module of claim 11, wherein the electrical power interface comprises a transformer coupled to the AC source that is adjustable for providing varying AC power at the transformer output and a phase-controller for controlling the operation of a rectifier based on the AC power and on a feedback signal from the DC power.

Claim 39 (New): The EDI module of claim 38, wherein the transformer comprises an autotransformer.